

REMARKS

Claims 21-24 are rejected. Claim 21 is amended. No new subject matter is added. Reconsideration of the claims is respectfully requested in light of the following remarks.

Claim Rejections – 35 USC § 102

Claim 21 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,396,092 to Takatani et al. (hereafter, 'Takatani'). The applicants respectfully disagree.

Claim 21 is amended to recite, *inter alia*, that the buried contact structure is formed **over and in contact with** the first interlayer insulating layer (emphasis added). Support for this amendment is found in the original application in FIG. 2. It is alleged that the claimed buried contact structure and the first interlayer insulating layer are disclosed by Takatani's element 32 (FIGS. 8-10) and element 27 (FIGS. 5-7), respectively. However, it is clear from Takatani FIG. 6 that element 32 is not formed **over and in contact with** element 27.

Furthermore, claim 21 is amended to recite, *inter alia*, a ferroelectric capacitor with a metallic lower electrode, that the metallic lower electrode contacts the buried contact structure through a second contact hole, and that the metallic lower electrode is formed **over and in contact with** the second interlayer insulating layer (emphasis added). Support for this amendment is found on in FIG. 2 and on page 9, lines 29-31 of the specification.

Takatani does not disclose the recited feature of a metallic lower electrode that contacts the buried contact structure through a second contact hole.

It is alleged that element 52 (FIG. 8) is part of Takatani's capacitor. Even if this could be considered true (which it is not), Takatani teaches that element 52 is a **phosphorous** doped amorphous **silicon** film (column 9, lines 49-50; emphasis added). It is well known that neither silicon nor phosphorous are metallic elements. Thus, even if the silicon film 52 is considered (wrongly) part of Takatani's capacitor, the silicon film 52 is not metallic and therefore Takatani does not teach every element of claim 21 as required for anticipation under MPEP 2131.

Furthermore, Takatani teaches that layer 61 of FIG. 9 is a TiN film (column 9, lines 51-53), that layer 62 of FIG. 9 is a platinum underlying electrode (column 9, lines 53-56), that layer 64 is a plate electrode (column 9, lines 58-59), and that a thin film of lead titanate zirconate (layer 63) is formed between the electrodes (FIG. 9; column 9, lines 54-60; emphasis added). Takatani explicitly teaches that "the upper electrode mainly containing iridium oxide, the lead titanate zirconate thin film, and **the lower electrode made from**

platinum and titanium nitride were sequentially patterned *to form a capacitor of a memory cell*” (column 9, line 65 to column 10, line 1; emphasis added).

Thus, contrary to the Examiner’s position, Takatani explicitly teaches that layer 52 is *not* a part of the capacitor (emphasis added). Rather, Takatani’s lower electrode is formed from the platinum layer 62 and the TiN layer 61. Neither the platinum layer 62 nor the TiN layer 61 contact the buried structure through the contact hole as required by claim 21.

Consequently, Takatani does not disclose a metallic lower electrode that contacts the buried contact structure through a second contact hole. Therefore, Takatani does not teach every element of claim 21 as required for anticipation under MPEP 2131.

For at least the above reasons, claim 21 is not anticipated by Takatani.

Claim Rejections – 35 USC § 103

Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,040,596 to Choi et al. (hereafter, ‘Choi’) in view of U.S. Patent No. 5,411,911 to Ikeda et al. (hereafter, ‘Ikeda’). The applicants respectfully disagree.

Claim 21 is amended to recite, *inter alia*, a blocking layer that is formed over and in contact with the buried contact structure and the first interlayer insulation layer. Support for this amendment is found in FIG. 3D and page 8, lines 23-24.

Ikeda is not alleged to teach this element, but it is alleged that Choi, FIG. 3A, shows a blocking layer (etch-stopper layer 30). However, as can be seen in FIG. 3A, etch-stopper layer 30 is not formed in contact with the alleged buried contact structure 22. Etch-stopper layer 30 is also not formed in contact with the alleged first insulation layer 20.

Consequently, the Choi/Ikeda reference does not establish a *prima facie* case of obviousness with respect to claim 21 because it neither teaches nor discloses all elements of the claim. Because claim 23 inherently contains the limitations of claim 21, it is also not *prima facie* obvious with respect to the Choi/Ikeda combination.

Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of U.S. Patent No. 6,251,726 to Huang (hereafter, ‘Huang’). The applicants respectfully disagree.

Claim 22 inherently contains all the limitations of claim 21. It was previously shown how the Choi/Ikeda combination fails to establish a *prima facie* case of obviousness for claim 21. Huang is not alleged to teach the element of claim 21 discussed above. Consequently, the Choi/Huang combination does not establish a *prima facie* case with respect to claim 22.

Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Choi in view of U.S. Patent Publication No. 2002/0011615 to Nagata et al. (hereafter, 'Nagata'). The applicants respectfully disagree.

Claim 24 inherently contains all the limitations of claim 21. It was previously shown how the Choi/Ikeda combination fails to establish a *prima facie* case of obviousness for claim 21. Nagata is not alleged to teach the element of claim 21 discussed above. Consequently, the Choi/Nagata combination does not establish a *prima facie* case with respect to claim 22.

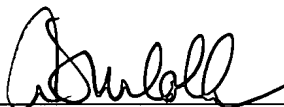
Conclusion

For the foregoing reasons, reconsideration and allowance of claims 21-24 of the application as amended is solicited. The Examiner is encouraged to telephone the undersigned at (503) 222-3613 if it appears that an interview would be helpful in advancing the case.

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Respectfully submitted,

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